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January 24, 2017

Mr. John Nordine
U.S. EPA Region 5
RCRA Enforcement and Compliance Assurance Branch (LU-9J)
77 West Jackson Boulevard
Chicago, Illinois 60604

Re: Central Wire, Union, Illinois RCRA CMI Monthly Progress Report, November 2016 (revised)

Dear Mr. Nordine:

Enclosed please find the RCRA CMI Monthly Progress Report for the Central Wire facility located in Union, Illinois for November 2016.

This report includes the eDMR for the groundwater pump and treat facility and the laboratory analytical report, which includes the effluent data used in the eDMR for November 2016.

If you have any comments or questions regarding the progress of this project, please contact me at (262) 237-1130.

Sincerely,

Autumnwood ESH Consultants, LLC

John W. Thorsen, P.E.

JWT:jt

encl

cc:

	Joyce Munie	IEPA
	Robert Kay	USGS
	Gerald W. Ruopp	Central Wire
	Robert Johnson	Central Wire

MONTHLY PROGRESS REPORT
Central Wire Union, Illinois Site
November 2016

1. **Progress Made This Reporting Period**

This reporting period Central Wire continued the operation and maintenance of the groundwater extraction and treatment system. Central Wire treated an average of 619,000 gallons per day (GPD) with a maximum daily flow of 625,000 GPD. The monthly NPDES sample met effluent limitations for pH, 1,1,1-Trichloroethane (TCA), Trichloroethene (TCE) and Tetrachloroethene (PCE). The electronic Discharge Monitoring Report (eDMR) for the month is attached to this report.

The laboratory analytical report for the pump and treat effluent noted that the groundwater pump & treat effluent samples were collected on November 8, 2016 and arrived at Test America Laboratory on November 9, 2016 at 1.70° C.

EW-2 is functioning, just not at the capacities that it could retain the flow attained immediately after the well rehabilitation in May 2015.

The average flow in the system in 2015 was 613,600 gallons per day (gpd) and the average in 2016 was 616,500 gpd. See Table 1 attached.

There is one combined flow meter for both extraction wells. Mr. Johnson turned off one then the other when collecting the influent samples in December 2016. He noted that EW-1 was pumping approximately twice the volume of EW-2. Central Wire averaged a total flow of 619,000 gpd in November 2016, So EW1 was pumping about 400,000 gpd (280 gallons per minute or gpm) and EW-2 was pumping about 200,000 gpd (140 gpm). Central Wire is pumping all the water that is currently being produced in EW-2. If the pumping rate is increased, air begins to be introduced which results in increased wear and tear on the pump and iron deposition on the pipes by oxidizing the iron in the groundwater.

Central Wire is not aware of any changes in plume capture with changes in pumping rates. At the current pumping rates, Central Wire believes we are capturing most, it not all the upgradient chlorinated plume.

Central Wire utilized Figure 4-1 from the "2016 RCRA Corrective Measures Implementation Field Investigation Report" and the Utah Division of Water Rights Theis Equation distance-drawdown web application to determine the impact of the extraction wells on the plume.

Distance-drawdown calculations were done using the November 2016 flow rates and Figure 4-1, "Central Wire Groundwater Plume Concentration of Total Volatile

Organic Compounds", attached. The calculations show the drawdowns at the edges and the middle of the chlorinated plume in Table 2.

Table 2
Results of Distance Drawdown Calculations

Measurement Points	Distance Between Points (Feet)	Drawdown at 1 Year (Feet)	Drawdown at 15 Years (Feet)
EW-1 to S Edge	185	1.37	1.83
EW-2 to SW Edge	285	0.61	0.84
EW-1 to SW Edge	885	0.85	1.30
Total Drawdown to SW Edge		1.46	2.14
EW-1 to Midpoint	300	1.21	1.66
EW-2 to Midpoint	300	0.61	0.83
Total Drawdown at Midpoint		1.82	2.49

The results of calculations from the web application are shown in Attachment 1.

This table shows the drawdown on the south edge of the plume from EW-1, the drawdown on the southwest edge from EW-2 and EW-1 and the drawdown at the midpoint between the two extraction wells indicating capture of all or most of the upgradient plume and pulling in up to 1,200 feet of the downgradient plume. Central Wire believes the narrowing of the plume at the extraction wells also indicates the extraction wells are being effective in controlling the upgradient plume.

The Ex. 6 Personal Privacy (PP) pumping hours per week are tabulated in Table 3.

Table 3
Summary of 2016 Irrigation Pumping Hours per Week at Ex. 6 Personal Privacy (PP)
November 2 through November 21, 2016

Date of Hour Meter Reading (1)	Ex. 6 Personal Privacy (PP)		Ex. 6 Personal Privacy (PP)		Hours of Irrigation Well Pumping/Week
	Hour Meter Reading	Hours Pumped	Hour Meter Reading	Hours Pumped	
10/24/2016	6530	0	4155	0	0
11/2/2016	6534	4	4156	1	5
11/7/2016	6534	0	4156	0	0
11/14/2016	6546	12	4163	7	19
11/21/2016	6549	3	4169	6	9
Totals		**19**		**14**	**33**

(1) Note: Pumps were put into storage after November 21.

On December 12, 2016, Central Wire personnel downloaded the data logger tracking the depth of the water in monitoring well DGW-2I in the field for the November data to a laptop computer and reinserted the same data logger into the well.

The groundwater level monitoring data from downgradient monitoring well DGW-2I for November 2016 and the November 2016 precipitation and irrigation well pumping over the month have been graphed / plotted and are attached to this report as Table 4. Please note that there were three pressure anomalies at lines 3450 – 3452 on December 8 which impacted the groundwater elevations. Central Wire does not know the cause of this anomaly.

The depth to water measured from the top of the well casing was 7.09 feet in DGW-2I on November 2, 2016 at the beginning of the month. Therefore, there nominally was 23.25 feet of water above the data logger (30.34 ft. [depth of data logger] – 7.09 ft. [water level below top of casing]). The last data logger reading on November 2 from Table 3 of the October 2016 Monthly Progress Report at 1100 hours indicated there were 23.23 feet of water above the data logger (see entry 2876 on Table 2 of the October Monthly Progress Report). There was a difference of 0.02 feet between the manual measurement and the data logger measurement or a difference of 0.086%.

The depth to water measured from the top of the well casing was 6.90 feet in DGW-2I on December 12, 2016. Therefore, there nominally was 23.44 feet of water above the data logger (30.34 ft. [depth of data logger] – 6.90 ft. [water level below top of casing]). The last data logger reading on December 12 at 1246 hours (line 3888 on Table 4 of the attached MPR) indicated there were 23.44 feet of water above the data logger, the same as the manual reading.

The first logger reading on November 2 was 23.283 feet and the last logger reading on December 12 was 23.44 feet for a difference from start to end of the period of +0.157 feet.

The groundwater elevation during this period reached its highest level on November 4 at 815.015 feet above mean sea level. The groundwater elevation reached its low on November 28 at 813.223 feet above mean sea level for a total variation over the month of 1.792 feet.

Central Wire was aware the **Ex. 6 Personal Privacy (PP)** would be turned off soon so Central Wire collected a sample on November 8. It arrived at the lab on November 9 at 1.7° C. There were no VOCs detected in this sample. The results are reported in the Central Wire 11-2016 NPDES Analytical Report.pdf which is attached to this report.

2. Summary of Validated Data and Results

Pump & Treat System NPDES Sampling

The monthly effluent sampling took place on November 8, 2016. The permit limitations and analytical results are shown in Table 5 below. There were no effluent limitation exceedances.

Table 5
Central Wire Union Illinois Pump & Treat Discharge Analytical Results

Parameter	Effluent Limitation (Daily Maximum) µg/L	Analytical Results, µg/L
1,1,1-Trichloroethane	20	< 0.38
Tetrachloroethene	20	< 0.37
Trichloroethene	20	<0.16

The November NPDES analytical report, including the November Ex. 6 Personal Privacy (PP) Ex. 6 Personal Privacy (PP) analysis, is attached to this Monthly Progress Report.

This report also has environmental analytical results for the North Pond and South Pond. These ponds are Illinois EPA-regulated seepage ponds for Central Wire's rinse waters from the annealing process, non-contact cooling water, boiler blowdown and storm water.

3. Upcoming Events/Activities Planned

Central Wire will continue to operate the existing remediation systems. Effluent samples will be collected, analyzed and reported as required in our NPDES permit.

RCRA monitoring wells and selected residential wells will be collected on a six month cycle, usually in June and December.

Samples will continue to be collected at the **Ex. 6 Personal Privacy (PP)** every month when the irrigation well is operating, usually between April and October of each year. This is being done at the request of U.S. EPA.

Ex. 6 Personal Privacy (PP) provided the following information:

- There is pumping 24 hours per day, 5 days per week.
- Pumping does not occur on the weekends unless there is a dry period.

A distance drawdown calculation was done between DGW-2 and the South Branch irrigation well. There could be a drawdown up to half a foot over time.

Central Wire is discussing the mechanics of managing the water generated in surge blocking Extraction Well No. 2 by Municipal Well & Pump and has a cost estimate from them. Central Wire is working with Heritage Environmental Services to determine the proper tankage volumes and arrangements to obtain their cost estimate. Central Wire will determine when the trucks and tanks can get to the well because of an overly wet November. We may have to wait for the ground to freeze.

At EPA's request, Central Wire is preparing an integrated report of the RCRA CMI Field Investigation which required three different sampling events and includes the June extraction well sampling along with the June semiannual RCRA and Residential Well Sampling Event. A draft report will be provided to EPA by December 15, 2016.

4. **Anticipated Problem Areas and Recommended Solutions** – None.

5. **Key Personnel Changes** – None.

6. **Target and Actual Completion Dates** – This project has not deviated from the project schedule.